Listing of the Claims

1. (Original) A process for manufacturing a high energy protein protected ruminant feed, comprising:

(a) mixing oil seed meal with hulls to give a combined feed solids mixture having a hull/oil seed meal weight ratio of from about 1:100 to about 10:100;

(b) simultaneously or sequentially adding water and fat to the combined feed solids mixture in amounts based on the weight of oil seed meal in the combined feed solids mixture of from about 15 to about 50 percent by weight water and from about 1 to about 15 percent by weight fat to give a moist refatted meal feed;

(c) cooking the moist refatted meal feed in a cooker for a period of time sufficient to give a moist refatted cooked meal having a temperature of at least 200°F and a moisture content based on the weight of oil seed meal in the combined feed solids mixture of from about 21 to about 26 percent by weight;

(d) drying the moist refatted cooked meal in a dryer at conditions of temperature and time sufficient to give a dried meal having a moisture content based upon the weight of oil seed meal used in the combined feed solids mixture of from about 12 to about 16 percent by weight; and

(e) cooling the dried meal in a cooler to give a high energy protein protected ruminant feed having a temperature less than 25°F above ambient temperature.

2. (Original) The process of claim 1, wherein the cooker is a stacked cooker.

3. (Original) The process of claim 1, wherein the dryer is a rotary dryer.

4. (Original) The process of claim 1, wherein the cooler is a rotary drum cooler.

5. (Original) The process of claim 1, wherein the oil seed meal is soybean meal.



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6. (Original) The process of claim 1, wherein the hulls are soybean hulls.

7. (Original) The process of claim 6, wherein the soybean hull/soybean meal weight ratio in the combined solids feed mixture is from about 3:100 to about 6:100.

8. (Original) The process of claim 1, wherein the moisture content of the moist meal feed is from about 25 to about 40 percent by weight of the oil seed meal weight in the combined feed solids mixture.

9. (Original) The process of claim 1, wherein the fat is selected from the group consisting of vegetable oil, vegetable oil phospholipids, condensed distillers solubles, animal fat, or mixtures thereof.

10. (Original) The process of claim 9, wherein the fat is soybean oil phospholipids.

11. (Original) A process for manufacturing a cooked protein protected ruminant feed comprising the steps;

(a) mixing soybean meal with soybean hulls to give a combined feed solids mixture having a soybean hull/soybean meal weight ratio of from about 3:100 to about 6:100;

(b) simultaneously or sequentially adding water and fat to the combined feed solids mixture in amounts based on the weight of oil seed meal in the combined feed solids mixture of from about 25 to about 40 percent by weight water and from about 1 to about 15 percent by weight fat to give a moist refatted meal feed;

(c) cooking the moist refatted meal feed in a stacked cooker for a period of time sufficient to give a moist refatted cooked meal having a temperature of at least 200°F and a moisture



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content based on the weight of soybean meal in the combined feed solids mixture of from about 21 to about 26 percent by weight;

(d) drying the moist refatted cooked meal in a rotating drum dryer at from about 100 to about 150°F for a period of time sufficient to give a dried meal having a moisture content based upon the weight of soybean meal used in the combined feed solids mixture of from about 12 to about 16 percent by weight; and

(e) cooling the dried meal in a cooler to give a high energy protein protected ruminant feed having a temperature less than 15°F above ambient temperature and having a moisture content of from about 10 to about 14.5 percent by weight based on the weight of soybean meal in the combined feed solids mixture.

12. (New) A method according to claim 11, wherein the fat is soybean oil phospholipids



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